



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/775,302

02/10/2004

Nicolai Matuschek

ABACP0107US

1482

43076

7590

12/19/2005

MARK D. SARALINO (GENERAL)  
RENNER, OTTO, BOISSELLE & SKLAR, LLP  
1621 EUCLID AVENUE, NINETEENTH FLOOR  
CLEVELAND, OH 44115-2191

EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/775,302

Applicant(s)

MATUSCHEK ET AL.

Examiner

ARMANDO RODRIGUEZ

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 16-20 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 7, 12-15, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-12-2004, 2-10-2004</u> | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 5, 6, 8, 9, 11, 16-20, 23-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al (US 2002/01366254).

Regarding claims 1, 8, 9, 16-18, 23, 25-27, 29,

Figure 5 illustrates a semiconductor laser device having a laser (210) [applicant's laser diode], a fiber (270) [applicant's guide means] and a Bragg grating (275) [applicant's reflector], where the laser is described in paragraph [0049] as having a front facet with a low reflective film (310) as illustrated in figure 4. Paragraph [0100] discloses a relation between the reflectivity of the front facet film (310) of the laser and the reflectivity of the Bragg grating, which is the reciprocal of applicant's relative feedback relation, thereby the relationship of paragraph [0100] will provide an amount greater than 1, as 1.25. Paragraph [0121] discloses a Table III with a coupling coefficient (C) [applicant's k], when providing the values of Module 4 from Table III into applicant's relationship the result is 4.67.

Regarding claim 4, 5,

Paragraph [0050] discloses the low reflective film (310) as 2% or less.

Regarding claim 6,

Figure 10 illustrates at least 5 modes.

Regarding claims 11, 19 and 20,

Bragg gratings are apodized chirped gratings.

Regarding claim 24,

Paragraph [0053] discloses the laser as having the layers made of InGaAsP and the active layer having a quantum well structure.

Regarding claim 28,

The method is anticipated in light of figures 4 and 5.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (US 2002/01366254) as applied to claim 1 above.

Yoshida et al does disclose the relationship of the reflectivity of being 4.67, but does not disclose the range of between 5 and 10.

However, in accordance with MPEP 2144.05 II Optimization of ranges

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

In the instant application it would have been obvious to person of ordinary skill in the art to establish a range of between 5 and 10 because at the value of 4.67 the laser device of Yoshida et al will provide high power output in a very narrow bandwidth.

Claims 3 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (US 2002/01366254) as applied to claim 1 above, and further in view of Ziari et al (US 6,525,872).

Regarding claims 3 and 30,

Yoshida et al discloses a semiconductor laser device having a fiber with a grating, but does not disclose the grating being made by UV exposure.

However, it is well known in the art to write gratings into fibers by UV exposure, as discloses by Ziari et al in column 8 lines 30-32 and to have a laser without cooling as illustrated in figure 3A.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (US 2002/01366254) as applied to claim 1 above, and further in view of Stolen (US 3,875,422).

Yoshida et al is silent as to the fiber comprising silicon nitride, silica or silicon.

However, it well known in the art for optical fiber to comprise silica, as illustrated in figure 1 of Stolen.

#### ***Allowable Subject Matter***

Claims 7, 12-15, 21, 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ARMANDO RODRIGUEZ  
Examiner  
Art Unit 2828

AR